

Case 3095

***Mystacina* Gray, 1843, *Chalinolobus* Peters, 1866, *M. tuberculata* Gray, 1843 and *Vespertilio tuberculatus* J.R. Forster, 1844 (currently *C. tuberculatus*) (Mammalia, Chiroptera): proposed conservation of usage of the names**

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Abstract. The purpose of this application is to preserve the universal usage of the names of the two New Zealand bats *Mystacina tuberculata* Gray, 1843 (MYSTACINIDAE; the Lesser Short-tailed Bat) and *Chalinolobus tuberculatus* (J.R. Forster, 1844) (VESPERTILIONIDAE; the Long-tailed Bat). The introduction of *M. velutina* Hutton, 1872, a long disused junior objective synonym of *M. tuberculata*, has very recently been proposed on the mistaken grounds that the latter name is not available.

Keywords. Nomenclature; taxonomy; Mammalia; Chiroptera; MYSTACINIDAE; VESPERTILIONIDAE; *Chalinolobus*; *Mystacina*; *Chalinolobus tuberculatus*; *Mystacina tuberculata*; *Mystacina velutina*; bats; New Zealand.

1. New Zealand has three currently recognised bats, the Lesser and Greater Short-tailed Bats, at present called *Mystacina tuberculata* and *M. robusta*, and the Long-tailed Bat, *Chalinolobus tuberculatus*. *M. robusta* was described (as a subspecies of *M. tuberculata* confined to small offshore islands) only in 1962; it does not concern us here. Specimens of the other two taxa had been brought to Europe by the early 1840s, but it was not originally realised that more than one species was involved even though the two are not closely related. This conflating of the two taxa caused initial confusion, as described below, but the usage of names is now long established. Because of this stability and because *M. tuberculata* and *C. tuberculatus* are the type species of their respective genera, we believe that this usage should be conserved. A proposal that *M. tuberculata* Gray, 1843 should be replaced by *M. velutina* Hutton, 1872 has been put forward very recently (Mayer, Kirsch, Hutcheon, Lapointe & Gingras, 1999), but we consider that this replacement is in accord neither with stability nor with the strict application of the Code.

2. During Cook's second voyage, in May 1773 Johann Reinhold Forster collected the first specimen of New Zealand bats known to Europeans, and in a manuscript described it as *Vespertilio tuberculatus*. This MS has been preserved in Berlin since

1799, but it remained unpublished for many years until it was edited and published by H. Lichtenstein in 1844 (see para. 6 below). J.R. Forster's son, George, illustrated the specimen, but this and other illustrations were separated from the MS and remained in the British Museum since soon after the voyage (Hoare, 1982); G. Forster's plate was not published for over 200 years but has been reproduced (in part) by Andrews (1986).

3. J.E. Gray worked in the British Museum, and so had access to G. Forster's painting; it was he who in January 1843 published the first available (non-MS) descriptions of New Zealand bats (Gray, 1843a). On p. 181, under the heading '*Vespertilio tuberculatus*. G. Forster. Icon. ined., n. 1', Gray gave a five-word description 'Yellowish brown; ears small, rounded' which unambiguously relates to the species now known as *Chalinolobus tuberculatus*, the Long-tailed Bat. Thomas (1905) argued, and we agree, that on p. 181 Gray was simply describing George Forster's unpublished illustration; both the insertion of the younger Forster's initial and the term 'Icon. ined.' show this. Moreover, the words are Gray's own and are not a translation of J.R. Forster's MS in Berlin, which was not mentioned in Gray's 1843 paper and would not have been easily accessible to him.

4. At the end of the same work (1843a, p. 296) Gray added a footnote: '*Vespertilio tuberculatus*, p. 181.—I have just received two specimens of this bat; it is a new genus, differing from *Emballonura*, Kuhl [recte *Emballonura* Temminck], and *Urocryptus*, Temm., in having ... [a seven line description follows] ... It may be called *Mystacina tuberculata*'. The description on p. 296 clearly refers to the Short-tailed Bat since known as *Mystacina* [or sometimes *Mystacops*: see para. 9 below] *tuberculata*. Later that year Gray (1843b, p. 34) reported the presence in the British Museum of the two specimens of 'The MYSTACINE. MYSTACINA tuberculata, Gray, Dieffenb. Jour. App. 296. *Vespertilio tuberculatus*, G. Forster. Icon. ined. in Brit. Mus. t. 1.'

5. It is clear from the above that in 1843 Gray believed that he was dealing with a single species of bat from New Zealand. For this he used the specific name *tuberculatus*, taken from the title of G. Forster's unpublished picture, and, when he had examined two actual specimens, he proposed the name *Mystacina tuberculata* and used it as valid for the supposed single taxon. Pages 181 and 296 of Gray's work (1843a) were published at the same time and the work must be considered as a whole; when this is done it is evident that the single nominal species *Mystacina tuberculata* Gray, 1843 was established in the work, and that the two actual specimens and the specimen illustrated by G. Forster are the syntypes of this species (even though the last actually represented a different taxon).

6. In 1844 H. Lichtenstein published in Berlin a text (Forster, 1844) of J.R. Forster's journal, which had been written some 70 years earlier. On pages 62–64 this reported '*Vespertilio tuberculatus* F. The New Zealand Bat', accompanied by a detailed description in Latin. The species was based on a single male specimen which [in translation] 'survived two days after capture, was described by me and illustrated by my son'; the latter's picture was that seen by Gray (the actual specimen was never at the British Museum and is not in existence). The nominal species *Vespertilio tuberculatus* J.R. Forster, 1844 was established in this work; as already mentioned, the holotype of *V. tuberculatus* is one of the syntypes of *Mystacina tuberculata* Gray, 1843.

7. It was not until 1857 that it was realized that two distinct taxa were involved in the works described above. Tomes (1857, pp. 134–142, pls. 53, 54) gave detailed accounts, based on several specimens, of the Long-tailed and Short-tailed Bats under the respective names of *Scotophilus tuberculatus* Forster and *Mystacina tuberculata* Gray; he attributed the former name to Forster (1844) and the 'Icon. ined. in Brit. Mus.' and the latter to Gray's 1843 works. Tomes noted (p. 135) that 'as the above-mentioned zoologists have certainly been the first describers of two distinct animals, the names imposed by them will of course be retained; but it is much to be regretted that their specific names are similar; and the more so, as the one most recently given was clearly intended as a reference to the earlier known species'. By the 'most recently given' name Tomes meant Gray's use of *tuberculata*, but, as outlined above (and indeed as recorded by Tomes himself), by a curiosity of bibliographic history *Mystacina tuberculata* Gray, 1843 was in fact published as a valid name one year before the appearance of *Vespertilio tuberculatus* J.R. Forster for the other species.

8. Peters (1866, p. 680) established the nominal genus *Chalinolobus*, with *Vespertilio tuberculatus* Forster [initials and date unstated] as the type species by original designation (and also by monotypy); he mentioned that Tomes (1857) had placed the species in *Scotophilus*. The name *Chalinolobus tuberculatus* has been in use for the Long-tailed Bat throughout the 20th century, with authorship of the specific name ascribed sometimes to Forster and sometimes to Gray (see para. 9 below).

9. Hutton (1872, p. 185) proposed the replacement name *Mystacina velutina* for Gray's *M. tuberculata*, on the grounds that 'Dr. Gray named this bat *tuberculata*, under the impression that he was describing the *Vespertilio tuberculatus* of Forster ... as, therefore, Dr. Gray's name was given in error, and as confusion is likely to arise if both our bats have the same specific name, I propose to call this species *velutina* ...'. Hutton's replacement name *M. velutina* has been treated correctly by almost all workers as a junior synonym of *M. tuberculata* Gray; the only use of it we can find is by Thomas (1905, p. 423) as *velutinus*, in combination with the unnecessary replacement generic name *Mystacops* Lydekker, 1891 (Flower & Lydekker, 1891, p. 671; proposed because of supposed homonymy between *Mystacina* Gray and '*Mystacina*' [recte *Mystacinus*] Boie, 1822 (Aves)). Thomas erroneously considered that Gray's initial treatment of the two species as though they were one 'cut him [Gray] out' from being the author of the specific name of the Short-tailed Bat.

10. There is no doubt by anybody that the real inventor of the specific name *tuberculatus* was J.R. Forster, and that he applied this in his 18th century MS to the species now known as *Chalinolobus tuberculatus*. It was therefore not unreasonable, at the time, for Hutton (1872; see para. 9 above) to reject Gray's use of *Mystacina tuberculata*. However, the latter name has priority of publication, and under modern Codes it is valid and not to be rejected. Moreover, it has been in unambiguous, wide and universal use for this 'very remarkable species' (Dobson, 1878, p. 444) for very many years. It is in all New Zealand faunas, and examples of recent works using it are Daniel (1979), Hill & Daniel (1985), Daniel (1990) and Koopman (1993); further references have been given to the Commission Secretariat. *Mystacina* is the type genus of the family MYSTACINIDAE Dobson, 1875 (p. 349).

11. Very recently, Mayer et al. (1999) have argued that G. Forster is the author of *Vespertilio tuberculatus* as an available name (published in Gray, 1843a), that there is no such available name as *Mystacina tuberculata* Gray, 1843 (it is regarded as a

mere misidentification of *V. tuberculatus* G. Forster), and that the first available name for the Lesser Short-tailed Bat is *M. velutina* Hutton, 1872. However, this argument is not in accord with the facts, and nobody else (at least since Thomas, 1905; see para. 9 above) has considered *M. tuberculata* Gray, 1843 to be an unavailable name. As recounted above in paras. 3–5, the description in Gray (1843a) is in Gray's words, and G. Forster was not the author of an available name for the species in 1843 or at any other time.

12. Although the names *Mystacina tuberculata* and *Chalinolobus tuberculatus* have been in stable use for the two species for a very long time, and are both in accord with the Code, there are several reasons that lead us to refer the case to the Commission. The new challenge to the former name and the introduction of *M. velutina* by Mayer et al. (1999) is the most serious. Also, as we realised before we became aware of this action by Mayer et al., it might be argued under Article 49 of the Code that the application of the specific name *tuberculatus* to the *Chalinolobus* species, as well as to the mystacine, by Gray (1843) invalidated its use for the former species by all subsequent authors, including J.R. Forster himself (as of the 1844 publication) or Tomes (1857). Yet a third argument might be that, under modern Codes (Article 11e of the 1985 edition or Article 11.6.1 of the 1999 edition), Gray (1843) made *Vespertilio tuberculatus* available for the Long-tailed Bat by publishing it as a [supposed] synonym of *Mystacina tuberculata* which was adopted by later authors. None of these contrived approaches would be in accord either with stability or the simple reality (and usual acceptance) that *Mystacina tuberculata* and *Vespertilio tuberculatus* were adopted and published as valid for the two species in the publications of Gray (1843) and J.R. Forster (1844) respectively. It is desirable and urgent that the issues are put beyond dispute by a Commission ruling that the names are available from those works. We do not propose the designation of a lectotype or neotype for either of the species concerned, because the original specimens are not extant (or at least identifiable) and the distinction between the species is agreed by all.

13. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to place on the Official List of Generic Names in Zoology the following names:
 - (a) *Mystacina* Gray, 1843 (gender: feminine), type species by original designation *Mystacina tuberculata* Gray, 1843;
 - (b) *Chalinolobus* Peters, 1866 (gender: masculine), type species by original designation *Vespertilio tuberculatus* J.R. Forster, 1844;
- (2) to place on the Official List of Specific Names in Zoology the following names:
 - (a) *tuberculata* Gray, 1843, as published in the binomen *Mystacina tuberculata* (specific name of the type species of *Mystacina* Gray, 1843);
 - (b) *tuberculatus* J.R. Forster, 1844, as published in the binomen *Vespertilio tuberculatus* (specific name of the type species of *Chalinolobus* Peters, 1866);
- (3) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the name *Mystacops* Lydekker, 1891 (a junior objective synonym of *Mystacina* Gray, 1843);
- (4) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *velutina* Hutton, 1872, as published in the binomen *Mystacina velutina* (a junior objective synonym of *Mystacina tuberculata* Gray, 1843).

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